RESTORATION

UPDATED 8/14/2006

R-2: Increase the safety of Gulf communities by better understanding the risks of localized sea level rise, storm surge, and subsidence

36-Month Outcome:

• Develop a prototype decision-support tool that allows Gulf resource managers to integrate storm surge, sea level rise, and subsidence information for at least one pilot area on the Gulf Coast.
• Develop a pilot Community Resiliency Index for Gulf coastal communities.

Action Blueprint:

ACTION	LEAD	CONTRIBUTOR	COLLABORATOR	WHAT WILL YOU DO / DELIVER?	STATUS 7-18-06	REFINED OUTCOME	KEY NEXT STEPS
1. Enhance the coast-wide network of elevation benchmarks, including the Continuously Operating Reference System (CORS), to deliver subsidence rates accurate to 1 millimeter per year.	Louisiana Spatial Reference Center at LSU	NOAA	Florida, Mississippi, USACE, EPA	NOAA will provide funding to the Louisiana Spatial Reference Center at LSU to enhance the coastwide network of elevation benchmarks, including the CORS (Lead: NOS NGS) Several of the Gulf USACE districts may be able to contribute to this effort, as relevant to Corps studies and projects. EPA will collaborate with the action lead(s) to help integrate the Agency's data and information resources into the overall design of this action. MS will provide in-kind support. FL NERR sites will continue active participation in the CORS. The Louisiana Spatial Reference Center at LSU will coordinate with NOAA on this action.			
2. Obtain information on projected relative sea level rise, subsidence, and storm vulnerability to help prioritize conservation projects, including restoration, enhancement, and acquisition.	USGS	NOAA, USACE	Louisiana, Mississippi, USFWS, EPA	USGS will provide relevant information, technical advise and recommendations. NOAA will provide web based data on relative sea level trends and analysis tools for Gulf Coast National Water Level Observation Network Stations with over 25 years of data. NOAA will also provide frequency and duration of inundation analyses on existing NWLON stations. (Lead: NOS CO-OPS, EGT Habitat Program) USACE (New Orleans District) will be collecting this data and can share it; other districts may also be able to contribute information. USFWS will make available data from the National Wetlands Inventory and contribute technical advice and recommendations to this effort. EPA will collaborate with the action lead(s) to help integrate the Agency's data and information resources into the overall design of this action. Additionally, EPA's representative to the CWPPRA Task Force will submit a proposal through the program's annual solicitation process to potentially help further support this action. MS, LA will provide in-kind support.	At the June 2006 meeting in Biloxi, the restoration team discussed that this action could be an early success for the team. USGS and NOAA have done some work on this, and that information should be included in the State meetings to develop a conservation-oriented hazards assessment. Texas already has an extensive coast-wide network of monitoring stations to study sea level rise. This will probably be enhanced through a CIAP initiative involving the Blucher Institute at Texas A&M University and TCOON. Monitoring stations have been installed for 10 years. That is not long enough, so we need to be sure that those stations stay there or are reinstated.		

3. Develop and apply ecosystem models to forecast the habitat structure and succession following hurricane disturbance and changes in ecological functions and services that impact vital socioeconomic aspects of coastal systems.	USGS	USACE	USFWS, EPA, NSF, Louisiana, Mississippi	USGS will provide technical advice and oversight on the development and application of ecosystem models. The USACE Science and Technology Workgroup for the LCA can contribute to this, and other districts may also be able to contribute. NSF could fund model development, but the agency's ability to support proposed research and studies is dependent on the submission of proposals and peer review of those proposals. USFWS will provide technical advice in the development of ecosystems models. EPA will provide collaborative support to the action lead(s) by way of providing strategic data and information access and support relative to EPA monitoring programs and that have the potential to apply value to this action. MS, LA will provide in-kind support.			
4. Develop a management tool that enhances resiliency of Gulf Coast communities to storm surge and flooding through improved data, models, tools, and methodologies for at least one pilot study area in the Gulf region, including the Pensacola, Florida, area.	NOAA	Florida, USACE	Louisiana	NOAA will develop a model and decision support tools for more accurate storm surge and coastal flood forecasting building on enhanced observations, topographic and bathymetric data collection, vertical datum transformation, and ecological and societal analysis. (Lead NOAA CSC) FL will help coordinate the development of an improved storm surge model for the Pensacola, Florida, area. USACE and USGS are collaborating on developing coastal vulnerability maps based on lidar data collected through the USACE National Coastal Mapping Program. These standarized maps and LIDAR data are available to support this action. LA will provide in-kind support.	Doug Marcy at CSC is the new NOAA point of contact for the item NOAA is still on track to deliver a model and decision support tools for more accurate storm surge and coastal flood forecasting in FY07. A new water level gage has been purchased and will be added to the Weeks Bay NERR. New high resolution topographic and bathymetric data has been collected for the project study area (Mobile Bay to Walton County, FL). Vertical transformation tools for the study area will be available in FY07. Ecological and societal analysis will be conducted starting in FY07 and continuing into FY08.		
5. Develop an inventory of existing NOAA storm surge and other storm related products and services that includes data and observations, models, tools, and outreach and education activities over different time scales.	NOAA		Louisiana	NOAA will provide staff to develop an on-line searchable database of NOAA storm surge and other storm related products and services that will be consistent with existing NOAA Coastal Storm Program products and services. (Lead: NOAA CSC) LA will provide in-kind support.	NOAA developed an on-line searchable database for Coastal Storm Program products and services available through the following URL: http://www.csc.noaa.gov/csp. Storm surge and other storm related products and services are available through a web based storm data resources guide. Additional storm surge related products and services will be added to this guide in FY07. URL is http://www.csc.noaa.gov/storm_info		
6. Inventory and integrate topographic and bathymetric data for improved storm surge and inundation modeling for one or more pilot areas in the Gulf region.	NOAA	USGS, USACE	Lousiana	NOAA will develop an inventory of the topographic and bathymetric data available in the Gulf of Mexico suitable for use in storm surge and inundation modeling, evaluate the techniques of developing a integrated seamless topo/bathy surface, and develop an integrated topo/bathy product for a pilot area in Florida. (Lead: NOAA CSC) USACE can provide LIDAR and coastal mapping data to NOAA under USACE National Coastal Mapping Program. LA will provide in-kind support.	Topo/bathy inventory - Phase 2: organizing data into a unified geospatial display is complete. Phase 3: attributing each dataset with dataset characteristics (date of collection, sensor, resolution, datum, etc) is in progress. Currently developing a delivery mechanism for inventory. Eval. techniques - All background research has been done and appropriate contacts have been made. Techniques report is in draft form. Pilot area in Florida - Data has been collected and has been converted to a common format. Waiting for a beta version of VDatum to be released so topography can be integrated with bathymetry with the greatest accuracy.		

7. Determine how to enhance coastal communities resilience to disaster and begin to identify a methodology for the development of a resilliency index.	NOAA		Louisiana, University of Colorado Natural Hazards Center, USGS, FEMA	NOAA will host a session at the 2006 Annual Hazards Research and Applications Workshop that defines disaster resilient communities and develops a plan for a resiliency index for the Gulf of Mexico Coast. (Lead: NOAA CSC) LA will provide in-kind support.	NOAA participated in a session on disaster resilient communities at the 2006 Annual Hazards Research and Applications Workshop in Boulder, CO in July of 2006. In addition, NOAA held a special Salon with national experts on the CRI subject titled "Toward a Community Resilience Index – Exploring the Conceptual Framework," in Boulder, Colorado, on July 7, 2006.		
8. Coordinate, as appropriate, unified five Gulf State support for the collection of comprehensive shallow water bathymetry data (e.g., LIDAR) to support improved storm surge modeling and more accurate emergency evacuation assessments.	Identification of Lead still pending	USACE	Lousiana	USACE can contribute topo / bathy data, collected once every 4 years around the US, including Gulf of Mexico, through the National Coastal Mapping Program. LA will provide in-kind support.			